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Engineering Geology Consultants
Environmental Management Consultants
Technical Information Service

August 14, 1991

KTW & ASSOCIATES
43289 Osgood Road
Fremont, CA 94539
Attn: Mr. Kevin Krause

Subject: Monthly Ground Water Sampling Report for
Mitzi Stockel
3234 Castro Valley Blvd
Castro Valley, California

Gentlemen;

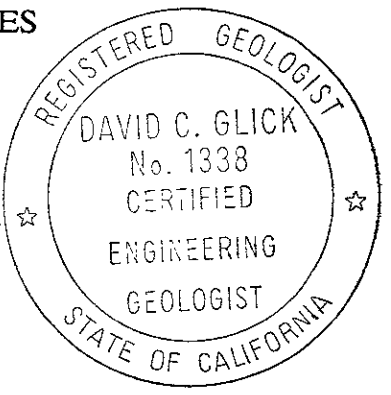
As requested and authorized, the attached Monthly Ground Water Sampling Report has been prepared to document the Monitoring Well sampling efforts performed at the subject site. The report presents the sampling protocol, recorded ground water elevations, and results of the analytical testing performed on the ground water samples collected in July, 1991.

It has been a pleasure to be of service to you on this project. Questions or comments regarding the attached report should be addressed to the undersigned.

Respectfully submitted,

DAVID C. GLICK ASSOCIATES

David C. Glick, CEG 1338
Principal Engineering Geologist



Enclosure:
(1) Monthly Ground Water Sampling Report for Mitzi Stockel

91 SEP 30 P1:12:06

MONTHLY

GROUND WATER SAMPLING REPORT

for

MITZI STOCKEL

3234 CASTRO VALLEY BLVD.

CASTRO VALLEY, CALIFORNIA

PREPARED FOR

KTW & ASSOCIATES

43289 OSGOOD ROAD

FREMONT, CA

August 14, 1991

MONTHLY
GROUND WATER SAMPLING REPORT
for
MITZI STOCKEL
3234 CASTRO VALLEY BLVD.
CASTRO VALLEY, CALIFORNIA

INTRODUCTION

The project site is located at 3234 Castro Valley Blvd. in the City of Castro Valley, in Alameda County, California. The site is the location of a former automotive repair facility (see Figure 1) and private residence. Five ground water monitoring wells exist surrounding the location of the former gasoline tank; however the traffic box and upper two feet of casing of Monitoring Well MW-2 was destroyed during site demolition and has been covered with concrete. In accordance with the agreement between Alameda County and KTW & Associates, the monthly monitoring includes monitoring wells MW-1, MW-4, and MW-5. As such, monitoring well MW-3 was not sampled for the monthly data collection. Sampling of the monitoring wells was performed on July 24, 1991.

MONITORING WELL SAMPLING

Free product measurements were obtained for each monitoring well at the time of each sample acquisition utilizing an acrylic bailer lowered into the well to obtain a water sample. The bailer was used to collect a water sample to observe the presence of hydrocarbon odors, visible sheen, or free product. Odors, sheens, or free product were not observed on the water samples obtained from the wells.

Prior to sampling the monitoring wells, a minimum of four well volumes were purged from each well through the use of a teflon bailer. Water samples for analytical testing were obtained through the use of the teflon bailer.

The water obtained from the monitoring wells during the purging and sampling activities was contained on-site in 55-gallon drums pending receipt of the laboratory test results.

The water samples were collected in sterilized glass vials with Teflon lined screw caps. The samples were immediately sealed in the vials and properly labeled including: the date, time, sample location, project number, and indication of any preservatives added to the sample. A travel blank was obtained from the analytical testing laboratory, transported to the field with the sample vials, and was submitted along with other samples for analysis (identified as MW-A). The samples were placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

GRADIENT SURVEY

The elevation of the top of the casing of the four monitoring wells at the former gasoline tank site was establishing during previous investigations (vertical control of 0.01 foot). Prior to purging the monitoring wells, the depth to ground water (measured to the nearest 0.01 foot) was measured with an electronic water level meter in each of the four monitoring wells. Ground water elevations recorded suggest that the ground water flow across the site is in a southwesterly direction (see Figure 1) with Monitoring Well MW-5 in a down-gradient direction from the former gasoline tank.

ANALYTICAL TESTING

The ground water samples were submitted to and tested by Anametrix Laboratories located in San Jose, California. The samples from the four gasoline tank monitoring wells were tested for Total Petroleum Hydrocarbons as gasoline by Method GCFID (5030) and Volatile Aromatics by EPA Method 602. The travel blank was submitted for analysis for Volatile Aromatics by EPA Method 602. The analytical test data, along with the Chain-of-Custody Forms are presented in Appendix A.

SUMMARY OF FINDINGS

Ground water elevations recorded during the sampling suggest that ground water is at a depth of 3.5-4.75 feet below the ground surface and flows across the site in a southwesterly direction at a gradient of 0.028 ft/ft. The southwestern direction of ground water flow places Monitoring Well MW-5 in a "down-gradient" direction from the former underground gasoline storage tank.

The analytical test results for the ground water samples obtained for this sampling event indicate non-detectable quantities of TPH as gasoline or BTXE for the samples from Monitoring Wells MW-1 and MW-4. The sample obtained from Monitoring Well MW-5 (down-gradient well) had detectable quantities of Total Petroleum Hydrocarbons as gasoline (86 parts per billion). However, the information presented from Anametrix Laboratory (see page 2 of test results) indicates that the "concentration reported as gasoline for sample MW-5 is primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline". The source or nature of these constituents has not been investigated. The analytical test did not detect BTXE in the samples from Monitoring Well MW-5. Previous testing had indicated low concentrations of Benzene.

Monitoring Well MW-5 continues to indicate low concentrations of hydrocarbon products indicative of degradation of residual levels of products in the ground water. Continued sampling of the ground water on a quarterly schedule is recommended to monitor further product degradation.

LIMITATIONS

We have only observed a small portion of the pertinent subsurface and ground water conditions present at the site. The conclusions and recommendations made herein are based on the assumption that subsurface and ground water conditions do not deviate appreciably from those described in the reports and observed during the field investigation.

David C. Glick Associates provides consulting services in the fields of Geology and Engineering Geology performed in accordance with presently accepted professional practices. Professional judgments presented herein are based partly on information obtained from review of published documents, partly on evaluations of the technical information gathered, and partly on general experience in the fields of geology and engineering geology.

No attempt was made to verify the accuracy of the published information prepared by others used in preparation of this assessment report.

If you have questions regarding the findings, conclusions, or recommendations contained in this report, please contact us. We appreciate the opportunity to serve you.

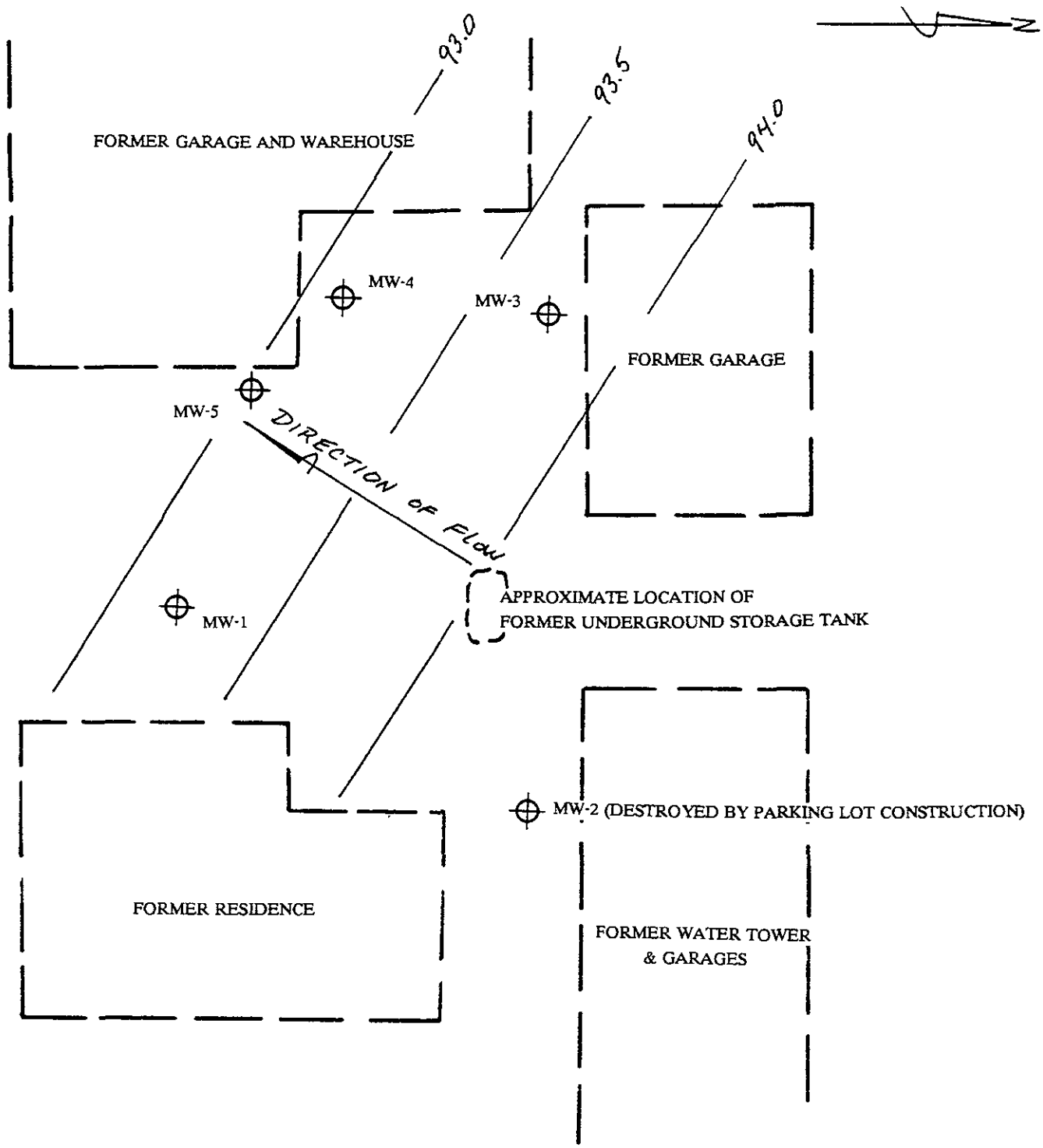
The following Figures and Appendix are attached and complete this report:

Figure 1	Ground Water Gradient Plan
Appendix A	Chain-of-Custody Form and Analytical Test Data

Respectfully submitted,

DAVID C. GLICK ASSOCIATES

DCG:dg



NOTE: ELEVATIONS BASED ON TEMPORARY BENCH MARK ELEVATION - ASSUMED 100.00 FEET MSL.

DAVID C. GLICK ASSOCIATES		
DATE 7-24-91	SCALE 1" = 20'	DRAWN BY DCG
GROUND WATER GRADIENT PLAN		
STOCKEL	Figure 1	

APPENDIX A

CHAIN-OF-CUSTODY FORM
AND
ANALYTICAL TEST DATA

CLIENT CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
P.O. No. A2650-51K	KTW & ASSOCIATES Stocker Properties

Send Report Attention of:	Report Due	Verbal Due
Kevin Kitazoe	/ /	/ /

Sample Number	Date	Time	Comp	Grab	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH-g / BTEX	Condition of Samples	Initial
MW4-W91ABC	7-24-91	1245		✓	MON. WELL 4	3	40 ml VOA	✓		
MW5-W91ABC		1305		✓	MON. WELL 5	3	40 ml VOA	✓		
MWA-W91AB		1305		✓	MON. WELL A	2	40 ml VOA	✓		
MW1-W91ABC		1320		✓	MON WELL 1	3	40 ml VOA	✓		

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	7-24-91 1618		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
		[signature]	1610 072491

Remarks: SAMPLES LABELED B & C ARE DUPLICATE SAMPLES
SAMPLES ACIDIFIED WITH HCL
STANDARD TURNAROUND

COMPANY: KTW & ASSOCIATES
ADDRESS:

PHONE: (415) 623-0480 FAX:

2066

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9107283
Matrix : WATER
Date Sampled : 07/24/91

Project Number : STOCKET PROPERT
Date Released : 07/30/91

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW4 -01	Sample I.D.# MW5 -02	Sample I.D.# MWA -03	Sample I.D.# MW1 -04	Sample I.D.# 12B0726A BLANK
Benzene	0.5	ND	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND	ND
TPH as Gasoline	50	ND	86	ND	ND	ND
% Surrogate Recovery		105%	108%	107%	109%	90%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		07/26/91	07/26/91	07/26/91	07/26/91	07/26/91
RLMF		1	1	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020.
RLMF - Reporting Limit Multiplication Factor.
Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 7.31.91 Date

Supervisor 7/31/91 Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9107283
Date Received : 07/24/91
Project ID : STOCKET PROPERTIES
Purchase Order: A2650-STK
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9107283- 1	MW4	WATER	07/24/91	TPHg/BTEX
9107283- 2	MW5	WATER	07/24/91	TPHg/BTEX
9107283- 3	MWA	WATER	07/24/91	TPHg/BTEX
9107283- 4	MW1	WATER	07/24/91	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9107283
Date Received : 07/24/91
Project ID : STOCKET PROPERTIES
Purchase Order: A2650-STK
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as gasoline for sample MW5 is primarily due to the presence of discrete hydrocarbon peaks not indicative of gasoline.

Cheryl Brasmer 7/31/91
Department Supervisor Date

Irma Shor 7/31/91
Chemist Date

STOCKEL MONTHLY GROUNDWATER MONITORING WELL TABLE
3234 Castro Valley Boulevard, Castro Valley California

Month No.	Date	Sampling No.	TPH-G	B	T	X	E
1	9/06/90	MW-1	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-2	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-3	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-4	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-5	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-1	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-3	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-4	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-5	50	N/D	N/D	N/D	N/D
3	11/27/90	MW-1	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-3	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-4	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-5	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-1	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-3	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-4	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-5	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-1	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-3	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-4	N/D	N/D	N/D	1.6	N/D
5	1/22/91	MW-5	95	N/D	N/D	N/D	N/D
7	3/13/91	MW-1	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-3	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-4	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-5	87	0.6	N/D	N/D	N/D
8	4/30/91	MW-1	N/D	N/D	N/D	N/D	N/D
8	4/30/91	MW-4	N/D	N/D	N/D	N/D	N/D
8	4/30/91	MW-5	120 J	0.6	N/D	N/D	N/D

STOCKEL MONTHLY GROUNDWATER MONITORING WELL TABLE

3234 Castro Valley Boulevard, Castro Valley California

Month No.	Date	Sampling No.	TPH-G	B	T	X	E
9	5/21/91	MW-1	N/D	N/D	N/D	N/D	N/D
9	5/21/91	MW-3	N/D	N/D	N/D	N/D	N/D
9	5/21/91	MW-4	N/D	N/D	N/D	N/D	N/D
9	5/21/91	MW-5	110	1.2	N/D	N/D	N/D
10	6/25/91	MW-1	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-3	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-4	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-5	74	N/D	N/D	N/D	N/D
10	6/25/91	MW-A	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-1	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-3	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-4	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-5	86	N/D	N/D	N/D	N/D
11	7/30/91	MW-A	N/D	N/D	N/D	N/D	N/D
12	8/29/91	MW-1	N/D	N/D	N/D	N/D	N/D
12	8/29/91	MW-3	N/D	N/D	N/D	N/D	N/D
12	8/29/91	MW-4	N/D	N/D	N/D	N/D	N/D
12	8/29/91	MW-5	54	N/D	N/D	N/D	N/D
12	8/29/91	MW-A	N/D	N/D	N/D	N/D	N/D

ABBREVIATIONS:

TPH-G	Total Petroleum Hydrocarbons as Gasoline	B	Benzene
T	Toluene	X	Xylenes
E	Ethylebenzene	ND	Non-detected

Note: All water samples are measured in micrograms per liter (ug/l) or parts per billion (ppb).

STOCKEL MONTHLY GROUNDWATER MONITORING WELL TABLE
3234 Castro Valley Boulevard, Castro Valley California

Month No.	Date	Sampling No.	TPH-G	B	T	X	E
1	9/06/90	MW-1	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-2	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-3	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-4	N/D	N/D	N/D	N/D	N/D
1	9/06/90	MW-5	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-1	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-3	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-4	N/D	N/D	N/D	N/D	N/D
2	10/24/90	MW-5	50	N/D	N/D	N/D	N/D
3	11/27/90	MW-1	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-3	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-4	N/D	N/D	N/D	N/D	N/D
3	11/27/90	MW-5	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-1	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-3	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-4	N/D	N/D	N/D	N/D	N/D
4	12/13/90	MW-5	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-1	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-3	N/D	N/D	N/D	N/D	N/D
5	1/22/91	MW-4	N/D	N/D	N/D	1.6	N/D
5	1/22/91	MW-5	95	N/D	N/D	N/D	N/D
7	3/13/91	MW-1	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-3	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-4	N/D	N/D	N/D	N/D	N/D
7	3/13/91	MW-5	87	0.6	N/D	N/D	N/D
8	4/30/91	MW-1	N/D	N/D	N/D	N/D	N/D
8	4/30/91	MW-4	N/D	N/D	N/D	N/D	N/D
8	4/30/91	MW-5	120 J	0.6	N/D	N/D	N/D

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3234 Castro Valley Boulevard, Castro Valley California

Month No.	Date	Sampling No.	TPH-G	B	T	X	E
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9	5/21/91	MW-3	N/D	N/D	N/D	N/D	N/D
9	5/21/91	MW-4	N/D	N/D	N/D	N/D	N/D
9	5/21/91	MW-5	110	1.2	N/D	N/D	N/D
10	6/25/91	MW-1	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-3	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-4	N/D	N/D	N/D	N/D	N/D
10	6/25/91	MW-5	74	N/D	N/D	N/D	N/D
10	6/25/91	MW-A	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-1	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-3	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-4	N/D	N/D	N/D	N/D	N/D
11	7/30/91	MW-5	86	N/D	N/D	N/D	N/D
11	7/30/91	MW-A	N/D	N/D	N/D	N/D	N/D

ABBREVIATIONS:

TPH-G	Total Petroleum Hydrocarbons as Gasoline	B	Benzene
T	Toluene	X	Xylenes
E	Ethylebenzene	ND	Non-detected

Note: All water samples are measured in micrograms per liter (ug/l) or parts per billion (ppb).